



### VICINITY MAP

SCALE: N.T.S.

APPROXIMATE LATITUDE: N42° 24' 17.50"  
COORDINATES: LONGITUDE: W71° 31' 37.30"

#### NOTE:

AN ANALYSIS OF THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: ICC COMMONWEALTH.  
DATED: DECEMBER 17, 2020

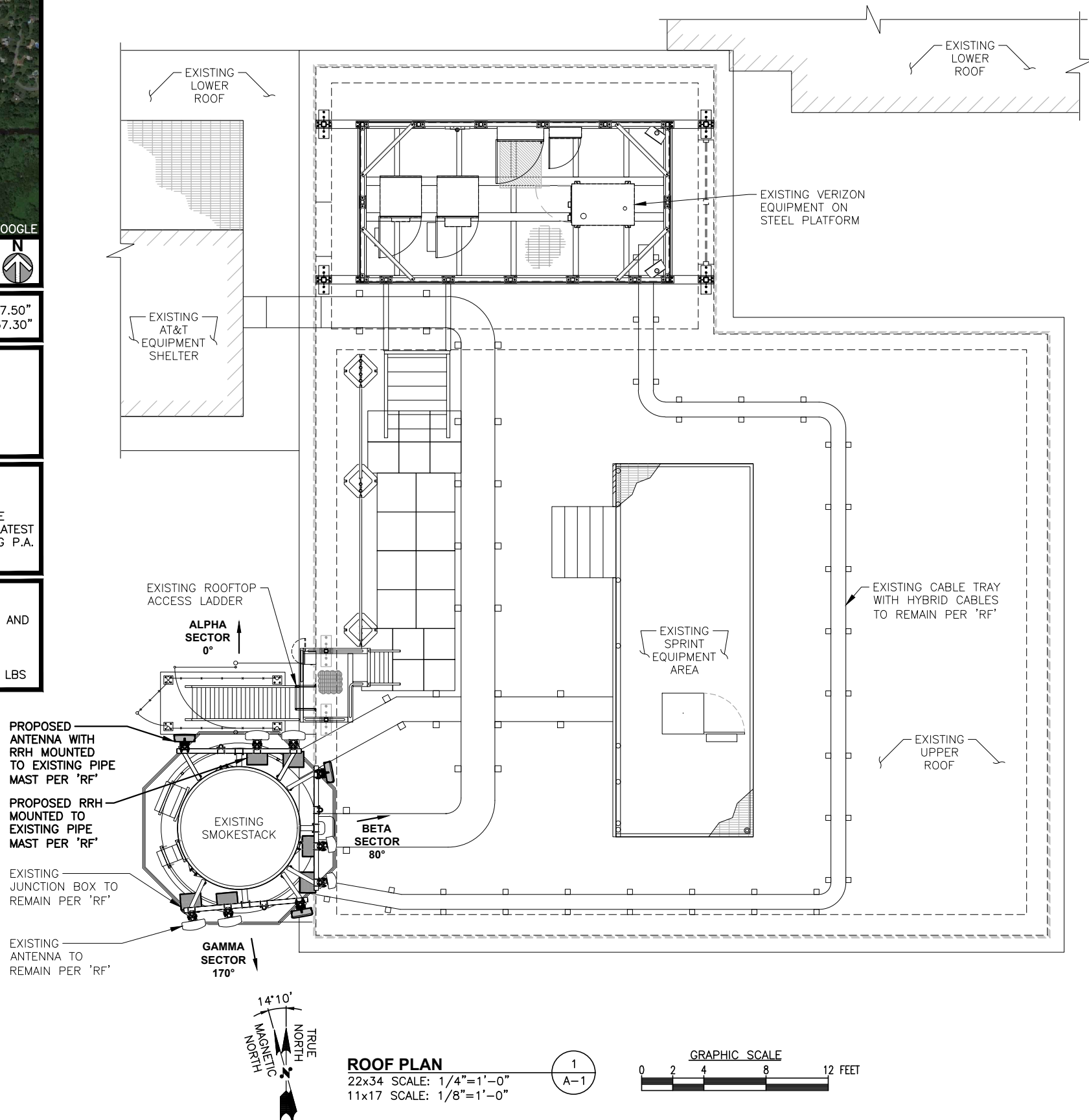
#### NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING IS BASED UPON THE LATEST MOUNT ASSESSMENT BY MASER CONSULTING P.A.

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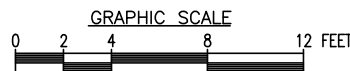
PROPOSED LICENSED SUB 6 ANTENNA SIZE AND WEIGHT ARE NOT TO EXCEED:

DIMENSIONS H35.12"xW16.06"xD5.51"  
WEIGHT (INCLUDING INTEGRATED RRH) 87.1 LBS



### ROOF PLAN

22x34 SCALE: 1/4"=1'-0"  
11x17 SCALE: 1/8"=1'-0"



FIELD INSPECTION DATE: 12-16-2020

### SCOPE

1. EXISTING (6) ANTENNA TO BE REMOVED, EXISTING (6) ANTENNA TO REMAIN, INSTALL (3) ANTENNA PER 'RF'.
2. EXISTING (6) RRH TO BE REMOVED, INSTALL (9) RRH PER 'RF'.
3. EXISTING (1) OVP TO REMAIN PER 'RF'.
4. EXISTING (2) HYBRID CABLE TO REMAIN PER 'RF'.
5. ALL REPLACEMENT ANTENNAS TO MATCH EXISTING CONDITION & HEIGHTS.
6. RECONFIGURE/RELOCATE EXISTING ANTENNA MOUNTS AS NECESSARY TO ACCOMMODATE HORIZONTAL SEPARATION, PROPOSED AZIMUTHS, AND ANTENNAS CONFIGURATION.

### NEW ANTENNA CONFIGURATION

#### NOTE TO GENERAL CONTRACTOR:

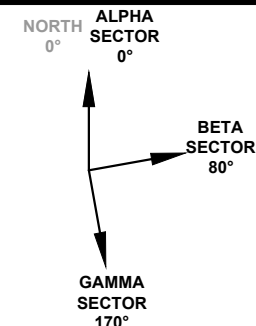
'RF' DESIGN AND EQUIPMENT IS BASED UPON RFDS ISSUED BY VZW DATED: JANUARY 13, 2021 REVISION #2.

THE CONTRACTOR OF RECORD SHALL CONTACT VZW PRIOR TO ANY AND ALL ORDERING/PURCHASING/INSTALLATION OF EQUIPMENT TO VERIFY THAT THE 'RF' LISTED IN THE DRAWING SET IS CURRENT AND UP TO DATE.

### NOTES

1. NORTH SHOWN AS APPROXIMATE.
2. SOME EXISTING & PROPOSED INFORMATION NOT SHOWN FOR CLARITY.
3. ANTENNAS WILL BE CAMOUFLAGED WITH 3M WRAP, AS NEEDED, PER VERIZON WIRELESS AND BUILDING OWNER'S APPROVAL.
4. PRIOR TO COMMENCEMENT OF ANY WORK, PROPOSED ANTENNA INSTALLATION IS PURSUANT TO FINDINGS DICTATED IN STRUCTURAL ANALYSIS. STRUCTURAL ANALYSIS TO VERIFY CAPACITY OF EXISTING STRUCTURE TO ENSURE STRUCTURAL INTEGRITY FOLLOWING INSTALLATION OF PROPOSED ANTENNAS, COAX CABLES AND REQUIRED HARDWARE. COPY OF STRUCTURAL ANALYSIS TO BE SENT TO DESIGN ENGINEER.
5. CONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, VERIZON WIRELESS ANTENNA MOUNT LOCATION AND ANTENNAS TO BE INSTALLED.
6. CONTRACTOR SHALL NOTIFY ENGINEERS IF FIELD CONDITIONS DIFFER FROM DESIGN.
7. RAD CENTERS MEASURED IN THE FIELD WITH LASER BY HDG. RAD CENTERS MAY NOT MATCH RF ANTENNA DESIGN SHEET.

### ANTENNA ORIENTATION



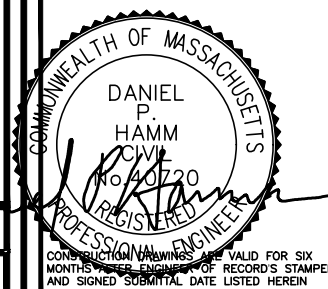
PREPARED FOR:

**verizon**

118 FLANDERS ROAD  
WESTBOROUGH, MA 01581

**HDG**  
**HUDSON**  
**Design Group LLC**

45 BEECHWOOD DRIVE TEL: (978) 557-5553  
N. ANDOVER, MA 01845 FAX: (978) 336-5586



CHECKED BY: JX

APPROVED BY: DPH

### SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	08/27/21	FOR CONSTRUCTION	SF

SITE NAME:  
HUDSON 4 MA

SITE ADDRESS:  
501 GLEASONDALE ROAD  
ROUTE 62  
STOW, MA 01775

SHEET TITLE

ROOF PLAN

SHEET NUMBER

A-1

HIGHEST APPURTENANCE  
ELEV. = 136'-0"± (AGL)  
329'-0"± (AMSL)

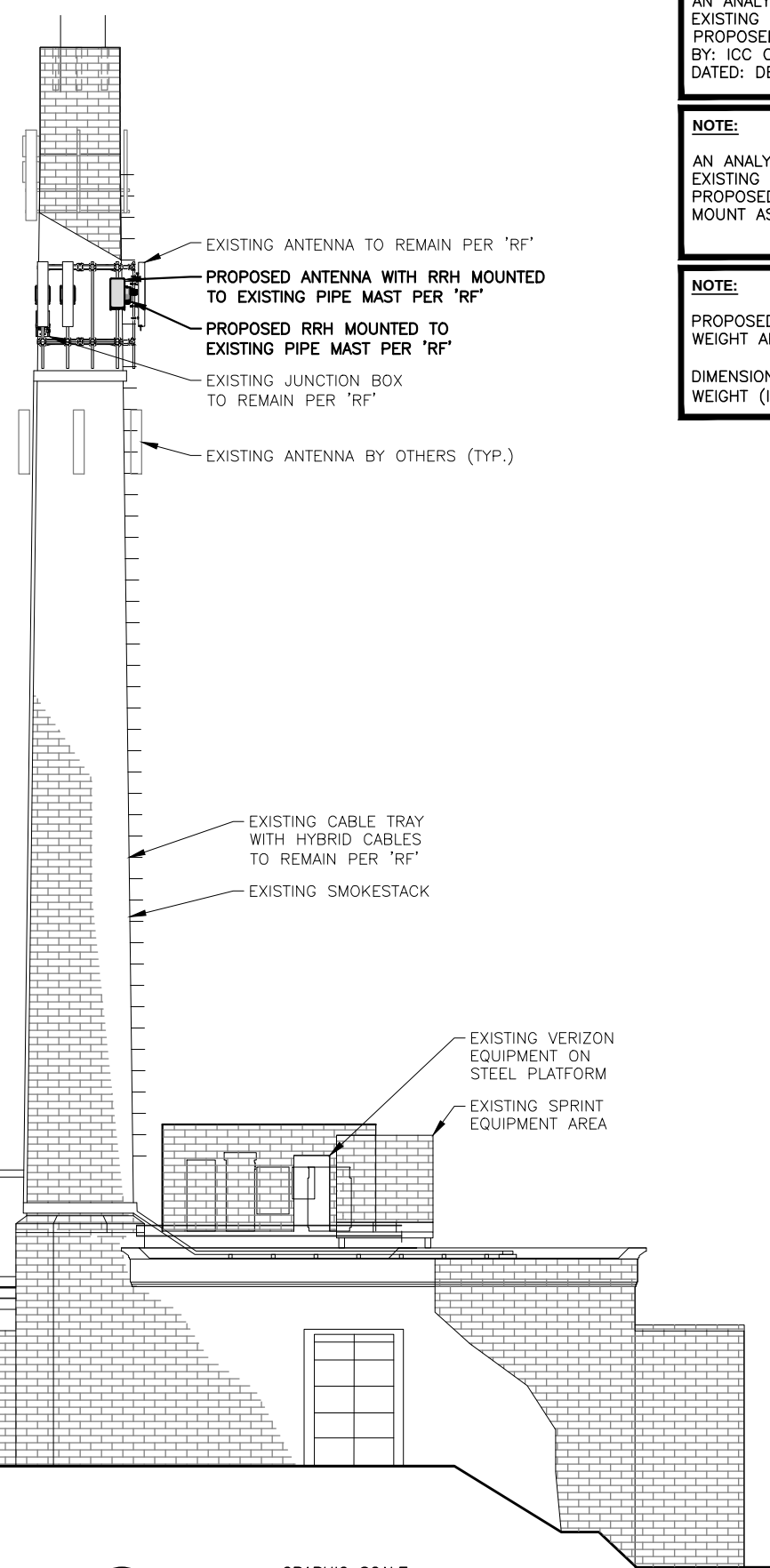
TOP OF EXISTING SMOKESTACK  
ELEV. = 133'-0"± (AGL)  
326'-0"± (AMSL)

TOP OF PROPOSED VERIZON ANTENNAS  
ELEV. = 111'-6"± (AGL)  
304'-6"± (AMSL)

☉ OF EXISTING/PROPOSED VERIZON ANTENNAS  
ELEV. = 110'-0"± (AGL)  
303'-0"± (AMSL)

EXISTING AT&T EQUIPMENT SHELTER

GRADE  
ELEV. = 0'-0"± (AGL)  
193'-0"± (AMSL)



**ELEVATION**  
22x34 SCALE: 1/8"=1'-0"  
11x17 SCALE: 1/16"=1'-0"

GRAPHIC SCALE  
0 4 8 16 24 FEET

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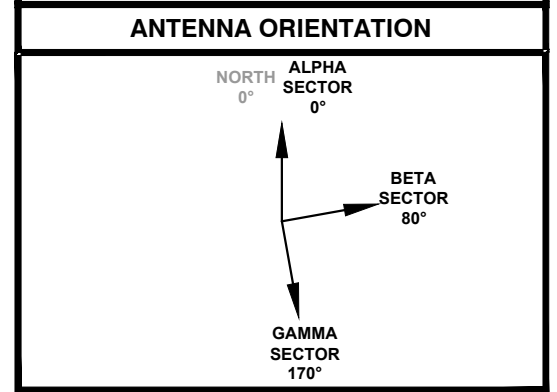
**NEW ANTENNA CONFIGURATION**

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**HDG HUDSON Design Group LLC**

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**COMMONWEALTH OF MASSACHUSETTS**  
DANIEL P. HAMM  
P.E.  
No. 40720  
REGISTERED PROFESSIONAL ENGINEER  
CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN

CHECKED BY: JX

APPROVED BY: DPH

**SUBMITTALS**

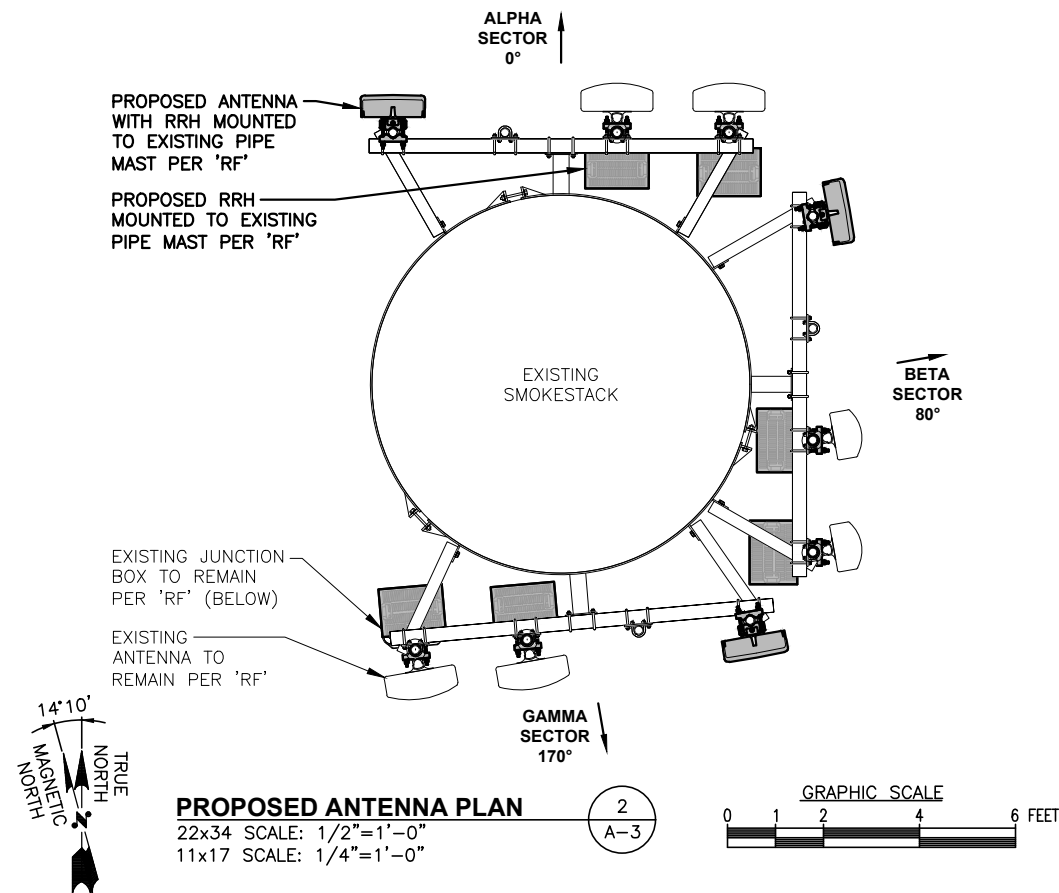
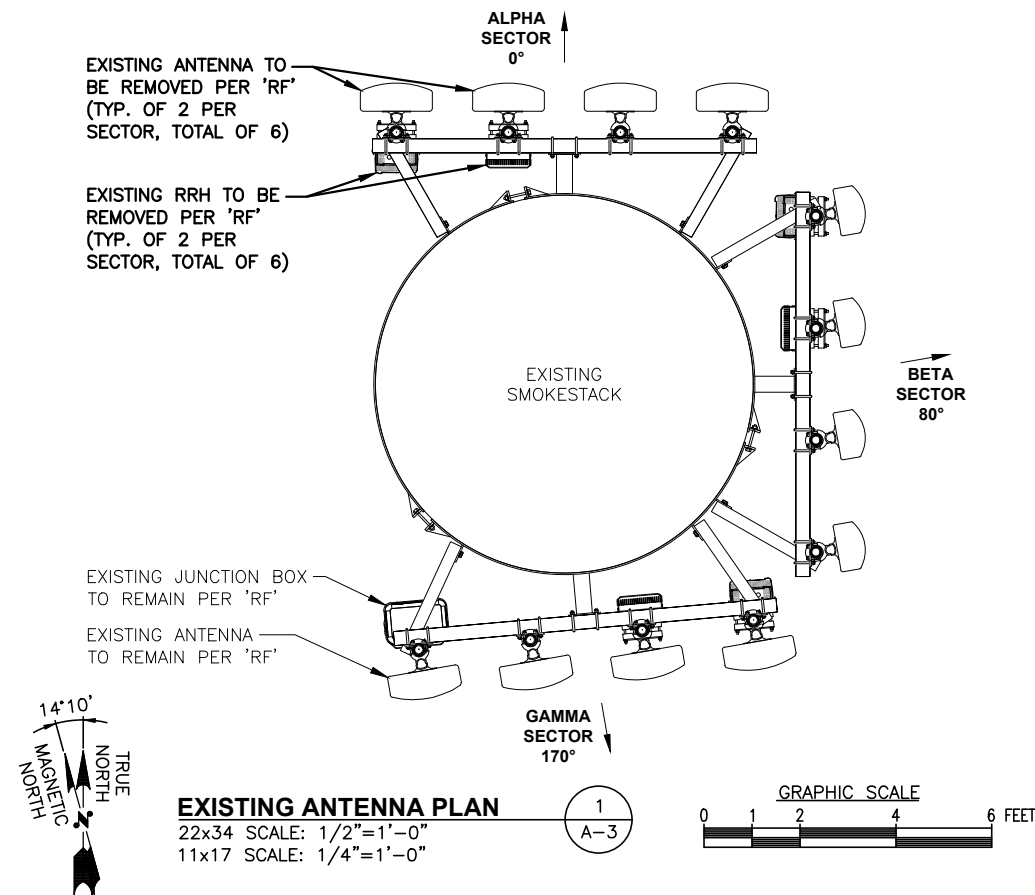
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ELEVATION

SHEET NUMBER  
**A-2**



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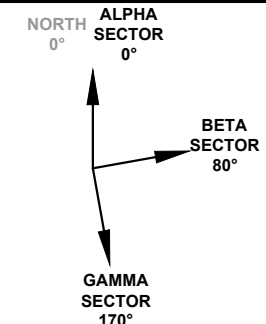
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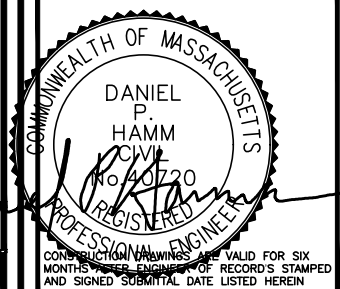
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SHEET TITLE  
ANTENNA PLANS

SHEET NUMBER

**A-3**



STRUCTURAL NOTES:

1.

DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3.

DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4.

STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5.

STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6.

STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7.

ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8.

ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9.

FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10.

CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11.

INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12.

UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13.

EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14.

EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15.

LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16.

WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17.

ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18.

NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19.

SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

MASSACHUSETTS AMENDMENTS TO THE IBC  
(REFERENCE 780 CMR):

**107.6 CONSTRUCTION CONTROL.**  
**107.6.1 GENERAL.** THIS SECTION SHALL APPLY TO THE CONSTRUCTION CONTROLS, PROFESSIONAL SERVICES AND CONTRACTOR SERVICES REQUIRED FOR BUILDINGS AND STRUCTURES NEEDING REGISTERED DESIGN PROFESSIONAL SERVICES.

**107.6.1.1 SPECIALIZED STRUCTURES.** TELECOMMUNICATION TOWERS, WIND TURBINE TOWERS, AND SIMILAR STRUCTURES ARE ENGINEERED STRUCTURES AND SHALL BE SUBJECT TO THE REQUIREMENTS OF SECTION 107.6.

**107.6.2.2 CONSTRUCTION.** THE REGISTERED DESIGN PROFESSIONALS WHO ARE RESPONSIBLE FOR THE DESIGN, PLANS, CALCULATIONS, AND SPECIFICATIONS, THEIR DESIGNEE OR THE REGISTERED DESIGN PROFESSIONALS WHO HAVE BEEN RETAINED FOR CONSTRUCTION PHASE SERVICES, SHALL PERFORM THE FOLLOWING TASKS:

1.

REVIEW, FOR CONFORMANCE TO 780 CMR AND THE DESIGN CONCEPT, SHOP DRAWINGS, SAMPLES AND OTHER SUBMITTALS BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS.
2.

PERFORM THE DUTIES FOR REGISTERED DESIGN PROFESSIONALS IN 780 CMR 17.00 SPECIAL INSPECTIONS AND TESTS.
3.

BE PRESENT AT INTERVALS APPROPRIATE TO THE STAGE OF CONSTRUCTION TO BECOME GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF THE WORK AND TO DETERMINE IF THE WORK IS BEING PERFORMED IN A MANNER CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND 780 CMR.

THE PERMIT APPLICATION SHALL NOT BE DEEMED COMPLETED UNTIL ALL OF THE CONSTRUCTION DOCUMENTS REQUIRED BY 780 CMR HAVE BEEN SUBMITTED. DOCUMENTATION INDICATING THAT WORK COMPLIES WITH THE PLANS AND SPECIFICATIONS SHALL BE PROVIDED AT THE COMPLETION OF EACH PHASE WHEN REQUIRED BY THE BUILDING OFFICIAL. UPON COMPLETION OF THE WORK, THE REGISTERED DESIGN PROFESSIONAL SHALL FILE A FINAL DOCUMENT TO THE BUILDING OFFICIAL INDICATING THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THW APPROVED PLANS AND 780 CMR. FORMS FOR CONSTRUCTION CONTROL WHEN REQUIRED BY THE BUILDING OFFICIAL SHALL BE THOSE FOUND AT <http://www.mass.gov/ocabr/government/oca-agencies/dpl-lp/opsi/>.

**107.6.2.3 SPECIAL INSPECTIONS AND TESTS.** SPECIAL INSPECTIONS AND TESTS SHALL BE PROVIDED IN ACCORDANCE WITH 780 CMR 17.00 SPECIAL INSPECTIONS AND TESTS.

**170.6.2.4 NON STRUCTURAL SYSTEM TEST AND INSPECTION.** TESTS AND INSPECTIONS OF NON-STRUCTURAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE ENGINEERING PRACTICE STANDARDS, REFERENCED STANDARDS LISTED IN 780 CMR 35.00: REFERENCED STANDARDS, OR AS OTHERWISE SPECIFIED IN 780 CMR.

**107.6.3 CONSTRUCTION CONTRACTOR SERVICES.** THE ACTUAL CONSTRUCTION OF THE WORK SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AS IDENTIFIED ON THE APPROVED PERMIT AND SHALL INVOLVE THE FOLLOWING:

1.

EXECUTION OF ALL WORK IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
2.

EXECUTION AND CONTROL OF ALL METHODS OF CONSTRUCTION IN A SAFE AND SATISFACTORY MANNER IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL STATUTES AND REGULATIONS.
3.

UPON COMPLETION OF THE CONSTRUCTION, CERTIFICATION IN WRITING TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE THAT, TO THE BEST OF THE CONTRACTOR'S KNOWLEDGE AND BELIEF, CONSTRUCTION HAS BEEN DONE IN SUBSTANTIAL ACCORD WITH SECTION 107.6 AND WITH ALL PERTINENT DEVIATIONS SPECIFICALLY NOTED. THE BUILDING OFFICIAL MAY REQUIRE A COPY OF THIS CERTIFICATION.

**107.6.4 PROJECT REPRESENTATION.** A PROJECT REPRESENTATIVE MAY BE REQUIRED BY THE BUILDING OFFICIAL. THIS REPRESENTATIVE SHALL KEEP DAILY RECORDS AND SUBMIT REPORTS AS MAY BE REQUIRED BY THE BUILDING OFFICIAL. THIS PROJECT REPRESENTATION REQUIREMENT SHALL BE DETERMINED PRIOR TO THE ISSUANCE OF THE PERMIT AND MAY BE A PREREQUISITE FOR PERMIT ISSUANCE. REFUSAL BY THE APPLICANT TO PROVIDE SUCH SERVICE IF REQUIRED BY THE BUILDING OFFICIAL SHALL RESULT IN THE DENIAL OF THE PERMIT. ALL FEES AND COSTS RELATED TO THE PERFORMANCE OF PROJECT REPRESENTATION SHALL BE BORNE BY THE OWNER. WHEN APPLICATIONS FOR UNUSUAL DESIGNS OR MAGNITUDE OF CONSTRUCTION ARE FILED, OR WHERE REFERENCE STANDARDS REQUIRE SPECIAL ARCHITECTURAL OR ENGINEERING INSPECTIONS, THE BUILDING OFFICIAL MAY REQUIRE THAT THE PROJECT REPRESENTATIVE BE A REGISTERED DESIGN PROFESSIONAL IN ADDITION TO THOSE REGISTERED DESIGN PROFESSIONALS REQUIRED ELSEWHERE IN ACCORDANCE WITH SECTION 107.6.

**107.6.5 BUILDING OFFICIAL RESPONSIBILITY.** NOTHING CONTAINED IN SECTION 107.6 SHALL HAVE THE EFFECT OF WAIVING OR LIMITING THE BUILDING OFFICIAL'S AUTHORITY TO ENFORCE 780 CMR WITH RESPECT TO EXAMINATION OF THE CONTRACT DOCUMENTS, INCLUDING PLANS, COMPUTATIONS AND SPECIFICATIONS, AND FIELD INSPECTIONS.

REQUIRED INSPECTIONS AND SITE REVIEW DOCUMENT AS A CONDITION OF THE BUILDING PERMIT THE FOLLOWING INSPECTIONS AND SITE REVIEWS IDENTIFIED BY THE BUILDING OFFICIAL ARE REQUIRED FOR WORK PER THE 9TH EDITION OF THE MASSACHUSETTS STATE BUILDING CODE, 780 CMR, SECTION 110 AND CHAPTER 17			
REQUIRED SITE REVIEW AND DOCUMENTATION FOR PORTIONS OR PHASES CONSTRUCTION <sup>1,6,7</sup> (TO BE PERFORMED BY THE APPROPRIATE REGISTERED DESIGN PROFESSIONAL OR HIS/HER DESIGNEE OR M.G.L.C 112 881R CONTRACTOR)			
SITE REVIEW AND DOCUMENTATION	X	SITE REVIEW AND DOCUMENTATION	X
SOIL CONDITION/ANALYSIS/REPORT		ENERGY EFFICIENCY REQUIREMENTS	
FOOTING AND FOUNDATION (INCLUDING REINFORCEMENT AND FOUNDATION ATTACHMENT)		FIRE ALARM INSTALLATION <sup>2</sup>	
CONCRETE FLOOR AND UNDER FLOOR		FIRE SUPPRESSION INSTALLATION <sup>3</sup>	
LOWEST FLOOR FLOOD ELEVATION		FIELD REPORTS <sup>5</sup>	
STRUCTURAL FRAME - WALL/FLOOR/ROOF	X	CARBON MONOXIDE DETECTION SYSTEM <sup>4</sup>	
LATH AND PLASTER/GYPSUM		SEISMIC REINFORCEMENT	
FIRE RESISTANT WALL/PARTITIONS FRAMING		SMOKE CONTROL SYSTEMS	
FIRE RESISTANT WALL/PARTITIONS FINISH ATTACHMENTS		SMOKE AND HEAT VENTS	
ABOVE CEILING INSPECTION		ACCESSIBILITY (521 CMR)	
FIRE BLOCKING/STOPPING SYSTEM		OTHER:	
EMERGENCY LIGHTING/EXIT SIGNAGE			
MEANS OF EGRESS COMPONENTS		SPECIAL INSPECTIONS (SECTION 1704):	X
ROOFING, COPING/SYSTEM			
VENTING SYSTEMS (KITCHEN, CHEMICAL, FUME)			
MECHANICAL SYSTEMS			

**NOTES:**

1.

IT IS THE RESPONSIBILITY OF THE PERMIT APPLICANT TO NOTIFY THE BUILDING OFFICIAL OF REQUIRED INSPECTIONS (X). INSPECTION OF 780 CMR FIRE PROTECTION SYSTEMS MAY BE WITNESSED BY THE FIRE OFFICIAL AND INSTALLATION PERMITS ARE REQUIRED FROM THE FIRE DEPARTMENT PER 527 CMR.

2.

INCLUDE NFPA 72 TEST AND ACCEPTANCE DOCUMENTATION

3.

INCLUDE APPLICABLE NFPA 13, 13R, 13D, 14, 15, 17, 20, 241, ETC. - TEST AND ACCEPTANCE DOCUMENTATION

4.

INCLUDE NFPA 720 RECORD OF COMPLETION AND INSPECTION AND TEST FORM

5.

INCLUDE FIELD REPORTS AND RELATED DOCUMENTATION

6.

WORK SHALL NOT PROCEED, OR BE CONCEALED, UNTIL THE REQUIRED INSPECTION HAS BEEN APPROVED BY THE BUILDING OFFICIAL, AND NOTHING WITHIN CONSTRUCTION CONTROL SHALL HAVE THE EFFECT OF WAIVING OR LIMITING THE BUILDING OFFICIAL'S AUTHORITY TO ENFORCE THIS CODE WITH RESPECT TO EXAMINATION OF THE CONTRACT DOCUMENTS, INCLUDING PLANS, COMPUTATIONS AND SPECIFICATIONS, AND FIELD INSPECTIONS.

7.

ROUGH AND/OR FINISH INSPECTIONS OF ELECTRICAL, PLUMBING, OR SHEET METAL SHALL BE INSPECTED PRIOR TO ROUGH AND FINISH INSPECTIONS BY THE BUILDING OFFICIAL.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

**GENERAL:** WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS <sup>1</sup>
N/A	MATERIAL SPECIFICATIONS REPORT <sup>2</sup>
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS <sup>3</sup>
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS <sup>4</sup>
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION <sup>5</sup>
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS <sup>6</sup>
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

**NOTES:**

1.

REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.

2.

PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.

3.

PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.

4.

HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.

5.

ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.

6.

AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

1.

ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"Ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2.

SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3.


SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4.

VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5.


CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6.

EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

PREPARED FOR:

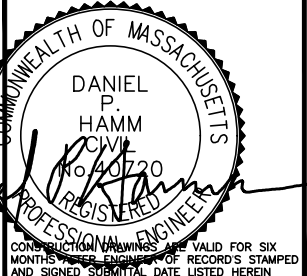


118 FLANDERS ROAD  
WESTBOROUGH, MA 01581



45 BEECHWOOD DRIVE  
N. ANDOVER, MA 01845

TEL: (978) 557-5553  
FAX: (978) 336-5586



CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN

CHECKED BY:

JX

APPROVED BY:

DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	08/27/21	FOR CONSTRUCTION	SF

SITE NAME:

HUDSON 4 MA

SITE ADDRESS:

501 GLEASONDALE ROAD  
ROUTE 62  
STOW, MA 01775

SHEET TITLE

STRUCTURAL NOTES  
&  
SPECIAL INSPECTIONS

SHEET NUMBER

SN-1

Chimney Design Calculations by ICC Commonwealth  
55 South Long Street, Williamsville, NY 14221

Customer: Hudson Design Group

Project Number: 1282

Site: 501 Gleasondale Road | Stow, MA 01775

Chimney Description: 121' Radial Brick Chimney with 10' Fiberglass Extension

Summary: The following is a structural analysis on a 121' radial brick chimney with a 10' fiberglass extension. With the proposed Verizon Wireless cellular equipment modification at the 110' elevation, it was found that the chimney shell is not overstressed. This analysis assumes all recommended structural repairs have been completed and all antenna mounts have been designed by others.

Repairs required:

- Repair transition between octagonal and round sections of the chimney as follows:
  - Remove spalled concrete.
  - Install cold joint at the top of the transition behind concrete to prevent further spalling
  - Fill-in spalled areas with SikaTop 123 mortar or equal
  - Seal the top of the transition with elastomeric sealant to prevent moisture penetration
- Rake out and point all loose and open mortar joints throughout the entire height of the column; 30% to 35% repointing is required.
- Mechanically clean two (2) upper structural bands to remove all rust and paint with corrosion resistant paint.
- Repair roof flashing and seal gaps between flashing and the brickwork.



By: JWL  
Date: 12/17/2020

1282 - Stow MA.xmcd



Hudson Design Group, LLC  
45 Beechwood Drive  
North Andover MA 01845

Attention: Mr. Jose Xavier 978.808.9418

Subject: Repairs to 121' High Radial Brick Chimney with 10' Fiberglass Extension  
Site Name: HUDSON 4 MA  
Site Address: 501 Gleasondale Rd., Stow, MA 01775

Dear Mr. Xavier,

This letter serves to transmit our proposal to perform the required repairs to the subject chimney in order to validate the most recent structural analysis.

1. Mobilize to the site and install the necessary rigging (scaling ladders and a work access platform) on the exterior to access the entire height of the chimney.
2. Repair transition between octagonal and round sections of the chimney as follows:
  - Remove spalled concrete.
  - Install cold joint at the top of the transition behind concrete to prevent further spalling
  - Fill-in spalled areas with SikaTop 123 mortar or equal
  - Seal the top of the transition with elastomeric sealant to prevent moisture penetration
3. Rake out and point all loose and open mortar joints throughout the entire height of the column; 30% to 35% repointing is required.
4. Mechanically clean two (2) upper structural bands to remove all rust and paint with corrosion resistant paint.
5. Repair roof flashing and seal gaps between flashing and the brickwork.
6. Clean up the site and demobilize.

Estimated Duration: (18) days, working 10-hr days; Mondays thru Saturdays.

To perform the work as above, based on our furnishing all labor, tools, material, equipment, and insurance, we quote our **lump sum price** of:  
**FIFTY-EIGHT THOUSAND, SEVEN HUNDRED FIFTY DOLLARS . . . . . \$58,750.0**

Approximate Cost Breakdown:  
Labor; including travel and perdiems: \$55,770.0  
Material; including rigging: \$2,980.0

Friday, December 18, 2020

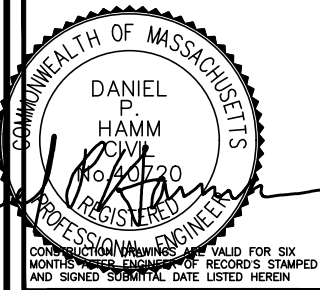
PREPARED FOR:

verizon

118 FLANDERS ROAD  
WESTBOROUGH, MA 01581



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CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	08/27/21	FOR CONSTRUCTION	SF

SITE NAME:  
HUDSON 4 MA

SITE ADDRESS:  
501 GLEASONDALE ROAD  
ROUTE 62  
STOW, MA 01775

SHEET TITLE

STAMPED ANALYSIS

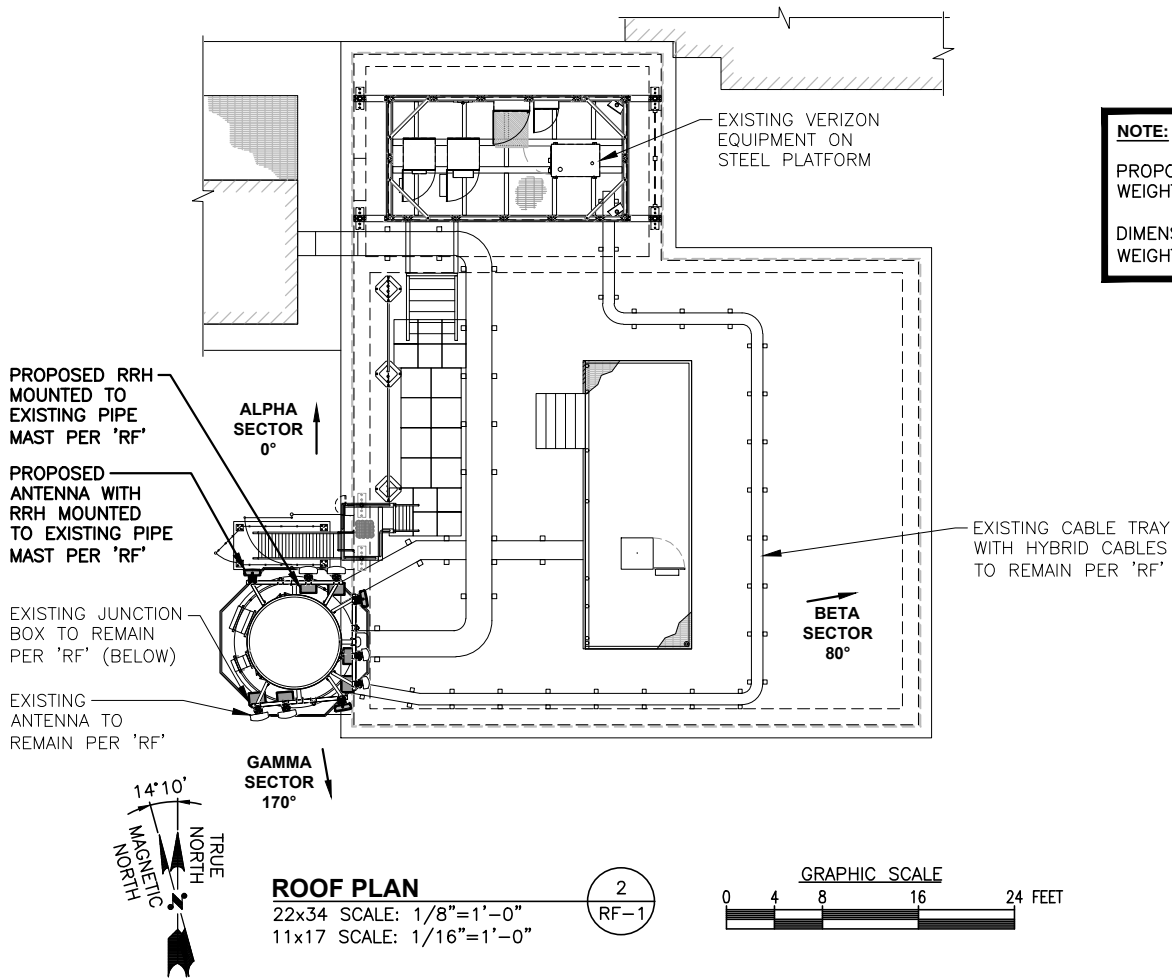
SHEET NUMBER

S-1



BILL OF MATERIALS				
SITE NAME: HUDSON 4 MA				
ITEM	DESCRIPTION	QTY	LENGTH	COMMENTS
①	PROPOSED LICENSED SUB6 ANTENNA W RRH	3		MOUNTED TO SECTOR FRAME
②A	EXISTING SBNHH-1D45B ANTENNA	2		MOUNTED TO SECTOR FRAME
③A	EXISTING SBNHH-1D45B ANTENNA	2		MOUNTED TO SECTOR FRAME
②B	EXISTING SBNHH-1D65B ANTENNA	1		MOUNTED TO SECTOR FRAME
③B	EXISTING SBNHH-1D65B ANTENNA	1		MOUNTED TO SECTOR FRAME
④	EXISTING RET CABLE	6	6 FT.	ROUTE FROM ANTENNA TO ANTENNA
⑤	PROPOSED 1/2" TOP COAX JUMPERS	12	15 FT.	ROUTE FROM RRH TO ANTENNA
⑤	EXISTING 1/2" TOP COAX JUMPERS	24	15 FT.	ROUTE FROM RRH TO ANTENNA
⑥	PROPOSED LTE 700/850 RRH	3		SAMSUNG RRH B5/B13 RRH-BR04C PIPE MOUNTED
⑥	PROPOSED PCS/AWS 1900/2100 RRH	3		SAMSUNG RRH B2/B66A RRH-BR049 PIPE MOUNTED
⑦	PROPOSED SAMSUNG FIBER JUMPER CABLES	6	15 FT.	ROUTE FROM OVP TO RRH
⑦	PROPOSED SAMSUNG POWER JUMPER CABLES	6	15 FT.	ROUTE FROM OVP TO RRH
⑧	EXISTING UPPER OVP	1		MOUNTED TO PIPE MAST
⑨	EXISTING 6X12 HYBRID CABLE	2	245 FT.	ROUTE FROM EQUIPMENT TO ANTENNA SECTOR
⑩	EXISTING LOWER OVP	1		RACK MOUNTED INSIDE CABINET

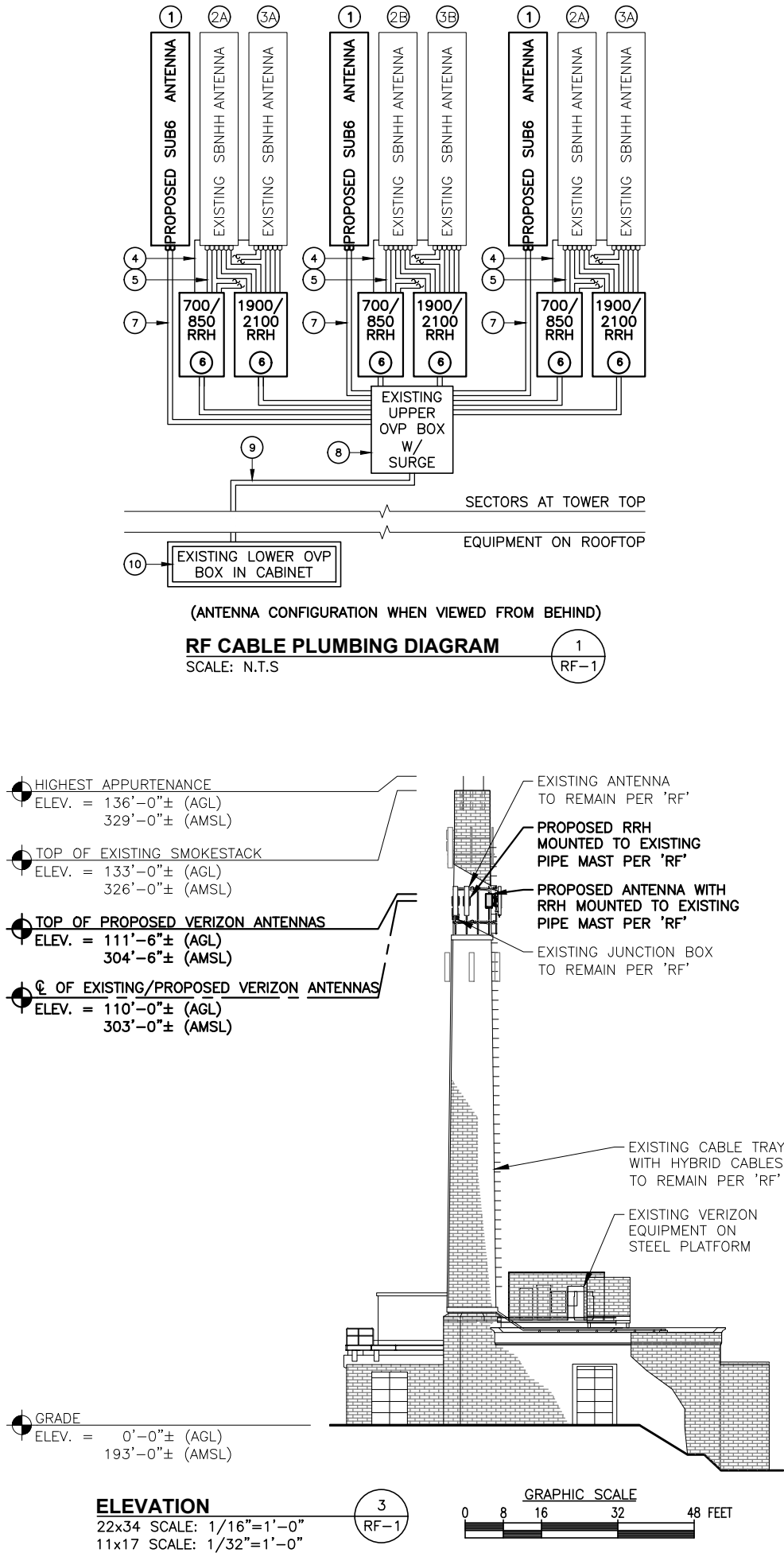
THE ABOVE RF-BOM SHEET IS BASED ON INFORMATION LISTED ON ANTENNA RECOMMENDATION SHEET DATED 01/13/21



**NOTE:**

PROPOSED LICENSED SUB 6 ANTENNA SIZE AND WEIGHT ARE NOT TO EXCEED:

DIMENSIONS H35.12"xW16.06"xD5.51"  
WEIGHT (INCLUDING INTEGRATED RRH) 87.1 LBS



PREPARED FOR:

**verizon**

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**HG**  
**HUDSON**  
**Design Group LLC**

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CHECKED BY: JX

APPROVED BY: DPH

**SUBMITTALS**

REV.	DATE	DESCRIPTION	BY
0	07/27/21	ISSUED FOR CONSTRUCTION	SF

SITE NAME:  
HUDSON 4 MA

SITE ADDRESS:  
501 GLEASONDALE ROAD  
ROUTE 62  
STOW, MA 01775

SHEET TITLE  
RF PLUMBING  
DIAGRAM & BILL  
OF MATERIALS

SHEET NUMBER

**RF-1**